

while the ova in uninjured females, after passing through that organ, remained turgid and were hatched in due time, that they now, from undergoing no intermediate process, fell from the oviduct, shrivelled up readily and died. Whatever therefore might be the real use or action of the bilobed vesicle, its very primary importance was at all events determined by the death or life of the ova, depending upon its being injured by puncturation or not.

The remainder of the paper was devoted to the prodigious fecundity of *Ixodes*, the females of which, according to their individual size, and the species whereunto they belong, give birth to more than a thousand ova, being so employed, without intermission, from ten to thirty consecutive days. To deposit these ova, the female when in a mature state of pregnancy detaches herself from the animal upon whose blood she has lived as a parasite by suction and falls to the ground; the young, which are hatched sooner or later according to the heat of the season, remain for some time quietly congregated together, but at the first impulse arising from want of food, they part company, and ascend the stalks of herbs and shrubs to await the passing by of that animal upon which instinct bids them subsist. They have then only six legs; but after the change has taken place, when the old rostrum and integuments are left adhering to the skin of the animal upon which they prey, they are then shown to be in an adult and perfect state, that is, furnished with eight legs. The whole paper, rich in facts, and of which the above is an abstract, was illustrated when read by a wax model of the female *Ixodes* as seen, when largely magnified, in the act of depositing her ova. It is to be hoped that some such masterly observer and arachnologist as Mr. Blackwall among our own countrymen may furnish us with additional evidence relative to the singular facts here recorded.

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XIX.—*Description of the Species of Cephalophus* (H. Smith) *in the Collection of the British Museum.* By J. E. GRAY, Esq., F.R.S. &c.

THE determination of the species of Antelopes has for a long time been considered one of the most difficult programs in zoology, and the Tufted Antelopes have perhaps been the least studied of the group. Finding, when revising the nomenclatures of the species of this genus in the British Museum collection, that there were several which do not yet appear to have been described, and that they appeared to have more prominent characters than have hitherto been given to them, I have ventured to send you for publication in the 'Annals' the result of my revision of the group.

The genus may be divided into sections by the shape and length of the ears.

I. *The ears elongate, nearly as long as the head, acute; horns elongate, slender; forehead flat.*

1. *C. mergens*. 2. *C. Campbelliæ*.

II. *Ears moderate, half as long as head, rather acute; horns short.*

3. *C. coronatus*.

III. *The ears short, not half as long as the head, rounded at the end; horns short.*

† *Black, white dorsal spot, no eye streak.*

4. *C. sylvicultrix*.

†† *Fulvous, black dorsal streak, no eye streak.*

5. *C. Ogilbii*. 6. *C. dorsalis*.

††† *Fulvous or black, no eye streak.*

7. *C. niger*. 8. *C. natalensis*. 9. *C. rufilatus*.

†††† *Gray brown, with a pale eye streak to base of the horns.*

\* *Fur one-coloured, hair uniform.*

10. *C. Maxwellii*.

\*\* *Fur one-coloured, hair black and gray intermixed.*

11. *C. monticola*. 12. *C. melanorheus*.

\*\*\* *Fur grised, hair yellow rayed.*

13. *C. punctulatus*.

Professor Sundevall has in his specific characters laid some stress on the direction of the lacrymal streak, but I find on comparing different specimens of the same species that little reliance can be placed on this character, in stuffed specimens at least; for the direction of the streak is altered according as the skin of the face is more or less stretched.

1. The Duyker or Duyker Boc, *Cephalophus mergens*. *Antelope mergens*, Blainv. Bull. Soc. Phil. 1817; H. Smith, G. A. K. v. 264; Licht. Saugth. t. 11; Harris, W. A. Afr. t. 15. *A. nictitans*, Thunb. Mem. Petersb. iii. 312. *A. Burchellii*, H. Smith, Griffith, A. K. v. 262. *A. Ptoox*, H. Smith, Griffith, A. K. v. 265? *A. platous*, H. Smith, G. A. K. v. 266. *Moschus Grimmia*, Linn.

Yellowish brown, grayish in winter; hair yellowish, with blackish tip; forehead yellowish bay; chin, throat, abdomen, inside of ears and under side of face white; feet, streak on the nose, up the legs, and upper part of tail black; ears elongate, nearly as

long as head, acute; horns black, elongate, slender, base rugose and subangular in front.

Inhab. S. Africa.

This species varies greatly in the intensity of the colours and in the extent of the black on the feet and nose. In one young specimen in the British Museum the black on the nose is quite deficient; and a newly born specimen has the bright colouring of the breeding-season, and is bright bay on the crown.

The specimen of *A. platous* in the London Missionary Society's Museum appears to be only a pale specimen of *C. mergens* without the black nose streak.

2. The Black-faced Philantomba, *Cephalophus Campbellia*. *Antelope Grimmia*, Pallas, Spec. Zool. xii. 18. t. 1?? *C. Burchellii*, var. (*C. Campbellia*), Gray, Cat. B. M. 162.

Gray and black, grised; belly white; cheeks, neck and chest yellowish; forehead yellow, with a black streak on the nose widening on the forehead and ending in a tuft behind the horns; feet and front of fore-legs reddish black; fur soft; hair gray, with black subterminal ring and tip; ears elongate, acute.

Inhab. S. Africa.

This species agrees in most respects with Pallas's description of an animal from Guinea; his name unfortunately cannot be retained, as there are three *A. Grimmia* :—

1. The *Capra sylvestris africana* of N. Grimm. Misc. Cur. Norimb. 1705. 131. t. 13, the authority for *Capra Grimmia*, Ray, Syn. 80, and Linn. S. N. (ed. x.) 70. *Moschus Grimmii*, Linn. S. N. ed. 12. from the Cape, of a dull gray colour. Probably the Duyker, *C. mergens*.

2. *Le Grimme* of Buffon, H. N. xii. 307. 329. t. 41. f. 2. 3. from a head sent from Senegal by Adamson, the *Antelope Grimmia* of Desmarest, F. Cuvier, and H. Smith, &c., the *C. rufilatus*.

3. The *A. Grimmia* of Pallas, like the above.

"*Fitomba*" or "*Philantomba*" appears to be the generic name of all the W. African *Cephalophi* or Bush Antelopes.

The *Cephalophus quadriscopa*, H. Smith, Griffith, A. K. t. 188, the only well-described species which we do not possess, appears to belong to this section; it is peculiar as being the only bush goat with knee tuft, and the only antelope with tuft on the hind as well as the fore-legs.

3. Red-crowned Bush Buck, *Cephalophus coronatus*. *C. coronatus*, Gray, Ann. N. Hist. x. 1842, 266. *Ant. Madoqua*, Ruppell, Faun. Abys. t. 7. f. 2; Sundevall.

Pale yellowish brown; middle of back, and part of fore legs varied with a few scattered black hairs; crown bright bay; crest

blackish brown, bay in front; feet and streak up the nose blackish; inside of ears, chin, throat, chest, belly and hinder legs whitish; horns short, conical.

Inhab. W. Africa. Mr. Whitfield called it *Coquetoon*.

There is an adult female in the collection of the Earl of Derby; a nearly adult male and two young females in the collection of the British Museum; the two latter brought by Mr. Whitfield with the female before mentioned.

4. White-backed Bush Buck, *Cephalophus sylvicultrix*. *Antelope sylvicultrix*, Afzelius, N. Act. Upsal. vii. 123; H. Smith, Griff. A. K. t. 187.

Blackish brown, minutely grised; hair brown, with whitish tip; back with a large yellowish white spot, narrow in front; throat, chest and belly redder; crown, nape and legs darker.

Inhab. Sierra Leone.

Varies in the size of the dorsal spot.

In the British Museum is a young male. Length 29 inches; height 18; tarsus 6.9.

5. Black-striped Bush Buck, *Cephalophus Ogilbii*, Gray, Ann. N. Hist. 1842. *Antelope Ogilbii*, Waterh. P. Z. S. 1838, 60.

Pale bay brown, with a deep black dorsal streak, beneath pale; crown and haunches brighter bay; neck and withers, and sides of the dorsal line varied with deep brown hairs; streak up the fore-leg, upper part of hock, feet (above the hoof) and end of tail blackish; horns short, thick, conical, very rugose on the inner front edges of the base.

Inhab. Fernando Po. J. Thompson, Esq.

6. Bay Bush Buck, *Cephalophus dorsalis*.

Dark bay; shoulders and legs darker; the crown and nape, broad streak along the back, hair brown, a few on the haunches white-tipped; end of the tail black, darker near the tail; sides of the chin, front of chest, and inside of the thigh pale brown.

Inhab. Sierra Leone. Called Bush Goat.

In the British Museum a young male brought to this country by Mr. Whitfield, which died in the Surrey Zoological Gardens.

7. Black Bush Buck, *Cephalophus niger*. *Antelope niger*, Mus. Leyden.

Sooty-black, grayer in the front half of the body; chin, throat, abdomen and inside of thighs gray; forehead, crown, dark bay and black mixed; cheeks pale brown and black varied; tail end whitish.

Inhab. Guinea.

In the British Museum there is a male from the Leyden Mu-

seum nearly as large as the former. There is at Knowsley a Bush Buck, which is now shining black with a reddish brown crest; when young it was red on the sides; it is perhaps the same as the above.

8. Natal Bush Buck, *Cephalophus natalensis*. *Antelope natalensis*, A. Smith, S. Afr. Quart. Jour. 217; Ill. Z. S. A. t. 32.

Bright red bay; nape, withers and feet varied with dark gray hairs; nose-streak short, blackish; lips, chin, upper part of throat and end of tail white; lower part of cheek, throat and abdomen pale yellowish; crown and tuft bright red; horns short, conical.

Inhab. S. Africa. Port Natal.

There are five specimens of different ages in the British Museum: this species resembles *C. Ogilbii* in size and colouring, but wants the dorsal streak.

9. The Coquetoan, *Cephalophus rufilatus*. *A. Grimmia*, H. Smith, G. A. K. v. 266. *Grimme*, Buffon, H. N. xii. t. 41. f. 2, 3; F. Cuv. Mam. Lithog. t. . not good.

Deep reddish bay; the legs, nape, streak on the nose to the crown and broad streak on the back blackish gray; ears blackish; crest and upper part of tail black; cheek rather paler; chin and abdomen pale yellowish; inside of ears whitish, with a brown spot on the outer side; horns conical, rather elongate, obscurely annulated, slightly recurved.

Inhab. Sierra Leone. Village of Waterloo. Called *Coquetoan*.

The hair is rather paler at the base, of the dorsal streak gray, with a blackish tip.

There is a male and female in the museum of the Earl of Derby, and a young female in the collection of the British Museum, presented by the Earl of Derby. The male is 27 inches high. Length 15; at the tarsus 5.6; the horns are nearly 3 inches long.

M. F. Cuvier's (Mam. Lithog. t. ) figure is evidently intended for this species, but it is much paler than any specimen I have seen, and the distribution of the colour of the separate head appears to have been taken for the *Guevei*?

10. The Guevei, *Cephalophus Maxwellii*, H. Smith, G. A. K. v. 347. *A. pygmea*, Pallas, Spec. xii. 18. front. *The Guevei*, Buffon, not Licht. *A. pygmea* (*Guevei*), F. Cuv. Mam. Lithog. t. . good, H. N. xii. t. 43. f. 2. horn?? *Antelope Frederici*, Laur., Sundevall. *A. Philantomba*, Ogilby.

Gray brown or sooty brown; sides of head and body grayer; chin, throat, chest and belly whitish gray; abdomen and front of

thigh white ; broad streak over each eye to the base of the horns yellowish white ; feet and end of nose rather darker ; fur rather rigid ; hair uniform.

Inhab. W. Africa.

This species is known from *C. monticola* by being larger, by the white of the eye streak and the white on the front of the thigh and chest and the rigidity of the hair.

There is an adult male and female of this species in the British Museum ; the male is bright sooty brown, darker near the rump ; the female is nearly uniform pale gray brown. It is well-figured by M. F. Cuvier.

11. The Blau Boc or Cape Guevei, *Cephalophus monticola*. *A. monticola*, Thumb. Stockh. N. H. xxxii. t. 5. *Antelope caerulea*, H. Smith, Griffith, A. K. v. 855 ; Daniell's Afr. Scenery, t. . *A. perpusilla*, H. Smith, Griffith, A. K. v. 854. *A. pygmea*, Licht. S. t. 16, Desm., Sund.

Gray brown ; streak over the eyes, legs and outer part of thighs rufous ; feet gray brown ; chin, chest, abdomen, and under side of tail and inside of ears white ; fur soft gray with intermixed rather rigid black hairs.

Inhab. South Africa.

The colours vary in intensity in a female in the British Museum ; the rufous colour of the thigh and the white of the breast are more distinct than in the male, but this depends on the season when they were killed.

A very young fawn, which was brought home from the Cape by M. Verreaux, is darker, and the reddish tint extends over the head and the whole body.

12. The Black-rumped Guevei, *Cephalophus melanorheus*. *Cephalophus Philantomba*, Gray, Cat. Mam. B. N. 163.

Gray brown ; throat and sides paler ; rump and upper part of tail black ; chin, chest, abdomen, back and front edge of thighs and under part of tail white ; narrow streak over the eyes whitish ; feet like the back ; fur soft, pale gray, with intermixed rather rigid black hairs.

Inhab. Fernando Po. J. Thompson, Esq.

There are two specimens of this species in the British Museum ; they are easily known by the black mark on the rump ; they are coloured like the *Guevei* from W. Africa, but smaller, and have the soft fur and interspersed black hair of the Cape *Guevei*, *C. monticola*.

13. The Grisled Guevei, *Cephalophus punctulatus*. *A. Philantomba*, H. Smith, G. A. K. ?

Dark fulvous brown ; sides and legs rather paler ; narrow streak

over the eyes and inside of ears pale brown, chin, throat, chest, belly and front of thighs and under part of tail white; hair gray at the base, with a brown and yellow subterminal ring; crown and upper part of tail darker; feet pale, varied.

Inhab. Sierra Leone.

We have a young specimen of this species in the British Museum, presented by Col. Sabine, R. E.

It is at once known from the other *Gueveis* by the fulvous colour which is produced by the yellow subterminal rings of the hairs.

Professor Sundevall in his Monograph recognises six and cites four doubtful species (Vet. Acad. Hand. 1844, 190).

XX.—*The Birds of Calcutta, collected and described by*  
CARL J. SUNDEVALL\*.

[Continued from p. 110.]

7. *Pica rufa*, Vieill., Wagler, Isis, 1829, p. 751. *Rufa*, capite colloque nigro-fuscis; vitta alarum caudaque canis; remigibus plerisque totis, rectricibus omnibus apice nigris. Longit.  $15\frac{1}{2}$  poll., cauda  $9\frac{1}{4}$ ; ala 148 millim., tarsus 29. Iris rufo-fuscens. ♂ et ♀ similes.

In Bengal the place of our common magpie is supplied by this bird, to which in form and marks it bears a close resemblance, but the Indian bird is a little smaller and red-brown instead of white. Its common screaming sounds are like those of our magpies, but instead of that feeble indistinct sound which they make in spring and which is their only song, the *Pica rufa* sends forth clearer and stronger tones, which sound like *koolee-oh-koor!* and at times *hohlee-oh!* (*c f, c, c, Da Capo, c, d, c*). In this the Hindoos hear the word *Halitshatsha*, which is the name of the bird in the Bengal language. It is common and stationary in the neighbourhood of Calcutta. It is mostly seen in trees, and although a little shy like our magpie, it seemed not very willing to fly. In the stomachs of those I examined there were only insects, chiefly grasshoppers. It did not seem to despise meat, but I never saw this kind touch any remains of carrion.

8. *Lanius phœnicurus*, Pallas †.—*L. collaris* var. Gloger. *L. cristatus*, Linn. sec. Edw. 54. *L. lucionensis*, Briss., Linn. *L. superciliosus*, Lath. sec. le Rousseau, Levaill. Ois. Afr. 66. 2. (e Bengalia; nec *L. superciliosus*, Licht. Cat. et Gloger, ex Afr. = *L. rufus* var.) *L. melanotis*, Valenc. Dict. Sc. Nat. 40. p. 227.

\* Translated from the 'Physiographiska Sällskapet's Tidskrift' by R. Bertram, with Notes by H. E. Strickland, M.A.

† This name is characteristic; the two older names, *cristatus* and *lucionensis* are altogether unsuitable.